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NUCLEAR POWER PROMISE FOR TOMORROW
DESTRUCTION FOR TOMORROW

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INTRODUCTION

> "The bomb had ended the war.
> If we had had to invade Japan,
> half a million soldiers on both
> sides would have been killed
> and a million more would have been
> maimed for life. It was as
> simple as that, that was all
> there was to it, and Mr. Truman
> had never lost any sleep over
> that decision."[1]

Since August 1945 we have lived in the Nuclear Age. The most destructive weapon we have created and used in our history has been part of our history for almost thirty years. We have talked of "harnessing the atom," "the triumph of technology" and have started many hopeful programs.

Among them was the "Atoms for Peace" proposed by President Eisenhower to the United Nations General Assembly on 8 December 1953. His program envisioned us sharing our nuclear technology with other nations; not so they could enter the "nuclear club" but so they could benefit from our advances in technology. This program has been successful and has benefited many nations. Atoms for Peace envisioned a sharing of our expertise in the area of nuclear power and medicine. The program attempted to provide a cheap way of creating electric power and desalting water. With such areas of emphasis, this program influenced men to see nuclear advances as being in his service. This program was ambitious and idealistic. It was ambitious because it tried to use one scientific advance as a catalyst to change man's life. It was ideal because it supposed that man could forget that atomic technology was first used to destroy and dominate. I would like to investigate two very recent nuclear related events to determine if man's regard for the power of the atom has changed or if his values remained the same. Specifically, how does man value his dominance of the atom? Does he see it as destructive, a fearsome tool, or does he see it as a tool to be used in building a better future? We can accept the facts given by Ben Wattenberg in his recent work. In 1964, a time of peace concern for controlling nuclear weapons was fourth in our national concerns. However in 1972, when our nation was at war, concern for nuclear weapons was not evident in our list of national concerns.[2] Do we only think of the atom when we have nothing more pressing? Or can we only have visions and illusions of peace, textured with concern for annihilation. In current times, times of war, nuclear power and its possibility have come to our consciousness. The two recent events included in this paper are President Nixon's promise of nuclear reactors to both Egypt and Israel during his Mid-East trip in June and the recent revelation that reports of projected possible nuclear reactor damage have been prejudiced and influenced.

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[1] Plain Speaking, An Oral Biography of Harry S. Truman, Merle Miller, p. 244, Berkly Medallion Books, New York, 1973.

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[2] The Real America, Ben J. Wattenberg, pp. 204-205, Doubleday and Co., New York, 1974.

NUCLEAR DIPLOMACY

In June 1974, President Richard Nixon made a trip to the Middle East. His reasons were varied for making the trip. But as his power eroded at home, he undertook to emphasize and to concretize the progress towards peace that his Secretary of State has achieved. During this trip, on 14 June 1974 Presidents Nixon and Sadat of Egypt signed a declaration of friendship and co-operation. The most suprising part of this agreement was that Egypt would get access to American nuclear technology. Specifically the United States offered to sell both nuclear fuel and reactors to Egypt. At that time Egypt had two small nuclear reactors which were furnished with fuel by the Soviet Union. The text of the agreement stated:

> "Since the atomic age began, nuclear energy has been viewed by all nations as a double-edged sword - offering opportunities for peaceful applications, but raising the risk of nuclear destruction. ... the two governments will begin negotiation of an agreement for cooperation in the field of nuclear energy under agreed safeguards. Upon conclusion of such an agreement, the United States is prepared to sell nuclear reactors and fuel to Egypt, which will make it possible for Egypt by the early nineteen-eighties to generate substantial additional quantities of electric power to support its rapidly

growing development needs."[3]

Immediately cries of concern were raised at the possibility of this "double-edged sword" starting to menace society in the disturbed Middle East. Immediate assurances and guarantees were given by the Administration that no nuclear fuel would be transferred to military use. The State Department and the Atomic Energy Commission (AEC) issued statements that no fuel could be transferred to military use. Extensive and complex safeguard procedures, monitored by inspections, have been developed by the AEC and the International Atomic Energy Agency. At the same time, to allay the obvious apprehension of the American people, announced that the United States would also offer the same opportunity to Israel when President Nixon visited there.

Israel has a larger atomic capability than Egypt. She had a French reactor capable of furnishing the required ingredients for an atomic bomb. The reactor was and is not subject to any international agreements or inspections as the reactors offered by the United States would have been. In addition, Israel and the United States had an agreement since 1955 to cooperate in nuclear research. Significantly this agreement recognizes Israel's capability in basic research. The reaction to these proposed agreements, especially to that with Egypt, was one of apprehension. Many members of Congress expressed caution and reservation. To counter this expected sentiment, extensive accounts and descriptions of the safeguard and inspection procedure were made available to the public. Especially well-qualified to speak to these issues was Defense Secretary James Schlesinger who is a former Chairman of the AEC. He said that the chance of any potential for use of the atomic fuel in nuclear weapons was slight. He declared that the safeguards would absolutely prevent the diversion of fashionable material to military use.[4]

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[3] New York Times, 15 June 1974, Vol: CXXIII, No. 42,545, p. 14.

It is interesting to note the immediate reaction towards the sharing of nuclear reactors and their fuel was one of fear that they would be used as military weapons. It was a "gut reaction." It was based almost entirely on instinct. No one outside the governments saw any of the humanitarian or reasonable aspects. Almost universally initial appraisal declared it to be destructive of peace.

The whole question has been resolved by Israel's lack of interest in the plan. Both Israel and Egypt were willing to accept the original plan. Egypt however insisted that existing atomic facilities be also included in the inspection agreement.

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[4] New York Times, 18 June 1974, Vol: CXXIII, No. 42, 548, p. 14.

Because it is advanced in nuclear technology and because it is unwilling to let its present reactors be inspected, Israel asked that the accord be voided. To relief of many, this seems to be the outcome of this excursion into nuclear diplomacy. The status quo has been maintained. The balance remains delicate but still balanced.

CONTROVERSY ON ATOMIC PLANT SAFETY

> "they jointly persue common interests in growth and technical innovation...Members of both the private and public bureaucracies are served by growth and the constant promotions, pay, perquisites, prestige and power...what expands one bureaucracy expands the other... whenever a technostructure and a public bureaucracy are closely juxtaposed. Such is the relation between the Atomic Energy Commission and its supplying industries....the tendency for the public and private organizations to find and persue a common purpose is of sufficient importance to justify a name. It may be called Bureaucratic Symbiosis.[5]

Today in the midst of the energy crisis the world is looking for sources of energy other than oil. Atomic energy is one source that is being examined. As oil rises in price, atomic energy is becoming more and more economically competitive. Presently in the United States we have fifty-one (51) atomic reactors which produce about seven(7) per cent of our electricity. The AEC has stated that approximately 100 reactors will be in use by 1980.

As we examine the atomic power plant, we also examine their total impact on our civilization. They can adversely affect our society in many ways. The most obvious is the long and short term damage they may inflict on the environment. The second is the terrifying possibility of a nuclear accident, the explosion of the reactor or the release of tremendous amounts of nuclear radiation. The AEC and nuclear engineers have declared that most of the problems have been solved. They have declared such a possibility to remote as to be almost impossible.[6]

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[5] Economics and the Public Purpose, John Kenneth Galbraith, pp. 154-155, Houghton Mifflin Co., Boston 1973.

In addition to the ongoing ecological debate, current controversy has focused on the possibility of a nuclear accident. Specifically public opinion has been focused on the report of the AEC released on 20 August 1974. The AEC said in that report that the chance of mass destruction from an atomic reactor was as unlikely as that of a meteor striking an urban area: once in a million years.[7] This study took two years to complete, has 14 volumes and cost $3 million. It was released by AEC Chairman Dr. Dixie Lee Ray after completion by Dr. Norman C. Rasmussen of Massachussets Institute of Technology. Essentially the study declared that the probability of a nuclear accident resulting in the death of several thousand persons was once in a billion times.

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[6] Nuclear Suicide?, Rosalie Bertell, in America 26 Oct. 1974, Vo. 131, No. 12, p. 228-230.

[7] New York Times, 21 August 1974, Vol. CXXIII No. 42,578, p. 16.

Although there is no such thing as "zero risk", the nuclear industry is portrayed as a very low risk enterprise.

> "The consequences of potential
> reactor accidents are no larger
> and in many cases are much smaller
> than those of non-nuclear accidents."[8]

Anticipating the criticism that was to follow, Dr. Ray stated that at no time did the AEC influence the study. She added, expecting the charge to be made that it would be a very serious charge to declare that the AEC could not be subjective.

Critics of both the report and our increasing dependence reactors were quick to respond. One critic recalled that even though such small risk involved, operators of nuclear power plants do not assume any responsibility for accidents. Instead they rely on the Federal Government to furnish this security instead.[9] Other critics said it was an "in house" study and its validity had yet to be determined. By valid and scientific scrutiny the authors of the study also clearly stated that their study concerned only the actual operation of the reactors and not the manufacture or transportation of fuel. They seemed eager to withdraw from any appraisals of the fuel manufacture and transport process.

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[8] IBID.

[9] New York Times, 21 August 1974, Vol. CXXIII, No. 42,578, p. 14.

Dr. Rasmussen stated that it was impossible for present reactors to explode, the fuel they use is not able to be used as a component of any explosion.

Other critics attacked the AEC. In an article in the New York Times they cited AEC statics that 3,333 violations were discovered in 1,288 of 3,047 installations examined.[10] Of these 98 were judged serious but only 8 resulted in punishment for the operators. These critics claim that such infrequent punishment encourages the operators to be lax. They claimed that the AEC had deliberately been lax in that part of its function that pertains to the regulation of reactor safety. The implication was one of collusion between the AEC and the private nuclear companies. As of 12 Oct. 1974 the AEC is now part of the Energy Research and Development Administration. The AEC has been separated into its component parts. One deals with licenses and inspections and the other with conducting basic nuclear research. Perhaps collusion, if there ever was any, will become impossible.

Reaction to the report continues. Many scientists discount the methods used to arrive at the final statics as being invalid. They charge that the statical method is obsolete. They also criticized the AEC assumption that most civilians would be evacuated from a danger area. They claim that there are in fact no such plans. And time would not be large enough to permit this. They also charge that the study failed to take into account the plutonium fuel which will be used in the future and which is much more lethal than current fuels.[11]

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[10] New York Times, 25 August 1974, Vol. CXXIII, No. 42,562, p. 19.

Not all scientists are against the increased use of atomic reactors for increased energy needs. Dr. Hans Bethe, a Nobel Laureate from Cornell, recently spoke at City College in New York. He said, "we are in the most serious crisis since WWII. Unless we find a solution, our whole mode of life may come to an end."[12] He proposed that we accelerate nuclear research. He thinks that the total harmful effect on men from current nuclear plants is far less than that from coal burning generating plants.

It is obvious that the scientific debate still continues. A solution among scientists will demand much more time and much more research and debate.

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[11] New York Times, 24 November 1974, Vol. CXXIII, No. 42,673, p. 57.

[12] New York Times, 14 Dec. 1974, Vol. CXXIII, No. 42,692, p. 1.

CONCLUSIONS

Although we are far from an end to the debate, we can see some long held values and appraisals have remained stable. There are already some visible effects and they are worth nothing. The first is the division of the AEC and its absorption into the Energy Research and Development Administration. This division of the AEC diminishes the possibility of interaction for mutual benefit between the AEC and the public companies that deal in nuclear technology. It will help to remove any taint or suspicion from future reports and studies concerning Nuclear Energy published by the AEC. In addition people are more critically accepting the pronouncements of government agencies. They carefully look at those agencies which are closely linked to the industry that they regulate or support. These same agencies are also the target of reform legislation. The public is becoming less naive and accepting. A second effect is the public's awareness of the tremendous dangers of nuclear energy. Evidence is ample of the increased opposition to new nuclear power plants wherever they are proposed. People are becoming aware that nuclear energy has deep and wide effects on their life.

However numerous values and attitudes towards nuclear energy have not changed. Many look on nuclear energy and technology as weapon energy and technology. Only incidently is it does it have a civilian application. Nuclear power still remains destructive power. To be in the nuclear club is to possess the atomic bomb. Atomic power is military power.

> "We are accustomed to thinking of nations which do not produce nuclear weapons as "non-nuclear". That is an error. Although nuclear weapon production may at the moment be limited to a few nations, the latter through their 'atoms for peace' programs their joint nuclear power and desalinization programs, and their sale of fashionable materials have allowed others to develop a nuclear capacity also. These states are nuclear states. Since the atom is 'neutral', since the basic know-how of weapons production is generally available, and since the production of weapon-grade plutonium is steadily becoming more easier and cheaper, it follows that a number of so-called 'non-nuclear' states have the capacity now to move into nuclear weapons production, should they decide it is in their interest to do so."[13]

There is little said on nuclear weapons or nuclear energy that is strongly optimistic. It is evident that man has not changed his view on nuclear energy. Since this force has been used twice to destroy cities, it fascinates and terrorizes him as a source of power. Man still looks on nuclear energy as a way to conquer, dominate and impose his will. If this power were looked on as having a peaceful value, man would have used it more. Its peaceful development would have kept pace with the military development. Nuclear power is developed in its most sophisticated way as a source of domination. Since man looks on nuclear power as a killer, he has not been willing to share. Today nuclear power is the most feared thing in the world. Perhaps it is actually man's desire to keep it that way.

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[13] Test Ban and Disarmament, The Path of Negotation, Arthur H. Dean, p. 314, Published for the Council on Foreign Relations by Harper and Row, New York, 1966.

> "The use of Atomic weapons symbolized the acceptance of total war and provided precedent for their possible use by other governments. Given the insecurities inherent in the international system of states, given the apparently overriding concern of men to preserve their nations' existence, it seems that no precedent would be needed for the future use of atomic weapons. Their magnitude presently has become so overwhelming, their ownership so distributed, that they have introduced an element of stability to relationships among states possessing such weapons. And yet this element of stability has only placed limits on the degree of international antagonism. And such limits are not absolutely restrictive. Nuclear weapons may be used again.[14]

The issue of nuclear power becomes more important as the energy and economic crises become more apparent. In its desperate attempt to continue world dominance, the United States seeks a way out of its energy crisis. Among many ways is the hope of vastly accelerating our nuclear power generating capability. It hopes to be able to develop the breeder reactor- a new type which produces more fuel than it consumes. Another tremendous problem is the storing of radioactive waste. Presently it is a tremendous problem even with our limited nuclear capability. It promises to be even more formidable in the future. I think we are at the beginning of a great national debate. Its political and ethical dimensions are slowly becoming apparent. It will occupy us increasingly in the future for we perceive that it is bound up not just with our survival, but, perhaps more importantly to us as a nation, with our survival as a nation with power and leadership.

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[14] Decision of Destiny, Walter Smith Schoenberger, p. 330, Ohio University Press, Athens Ohio, 1969.

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